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A NEW GENUS AND SPECIES OF MILLIPED FROM ILLINOIS (POLYDESMIDA, EURYURIDAE)

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Although the members of the Subfamily Euryurinae, Family Euryuridae, are remarkably similar in non-sexual characters, the structure of the male gonopods provides reliable and easily defined criteria for the recognition of genera. In *Singuliurus* Causey, 1955, the gonopods are simple, falcate, and the acropodite is subequal to the prefemur in length (Causey, 1955). *Euryurus* C. L. Koch, 1847, also has the prefemur and acropodite subequal, and differs from *Singuliurus* only in that the gonopod retains a tibiotarsal remnant and bears a process near the end of the prefemur. *Auturus* Chamberlin, 1952, has the acropodite one-fourth or less the length of the prefemur. *Illiniurus*, the new genus proposed here, presents a mixture of these characters, perhaps best summarized by the following key, which can be used to separate the known North American genera of Euryurinae:

1a. Gonopod blunt in lateral view, acropodite broadly expanded and flaring, usually widest part of gonopod .... *Auturus* Chamberlin, 1942.
1b. Gonopod with tip acute in lateral view, widest at joint between acropodite and prefemur .... 2.
2a. Tibiotarsal remnant exceeding solenomerite .... *Illiniurus* n. gen.
2b. Tibiotarsal remnant not exceeding solenomerite, or absent .... 3.
3a. Tibiotarsal remnant present, exceeded by solenomerite .... *Euryurus* C. L. Koch, 1847.
3b. Tibiotarsal remnant absent .... *Singuliurus* Causey, 1955.

Despite the similar appearance of the many species of euryurine millipeds, a search of the literature reveals no adequate description of their structure. The fairly detailed description of *Illiniurus beattyi* (new species) that follows will serve to characterize most species of the subfamily.

I am indebted to Dr. Joseph Beatty, Carbondale, Illinois, for sending the large collection of millipeds which contained the specimens of the new genus. The type species is named in his honor. I also thank Dr. Richard Hoffman, Radford, Virginia, who first recognized the genus as new.

FAMILY EURYURIDAE POCOCK

Subfamily Euryurinae Hoffman

Illiniurus new genus

Diagnosis: Non-sexual characters as described for type species, distinctive in details of gonopod structure from other genera of subfamily. Coxae of gonopods globose, articulated with each other by lightly sclerotized membrane. Prefemur only slightly longer than acropodite, line of contact between acropodite and prefemur distinct on ventral side, seminal canal not curved in passing line. Prefemur without processes. Acropodite apically acute, with mesal margin incurved, concave mesodorsally, ending in three subequal, short processes, of which the solenomerite is the longest. Distinguished from *Auturus* by having the prefemur and acropodite subequal in length, and the acropodite acute; from *Euryurus* by the lack of a prefemoral process and having the tibiotarsal remnant exceed the solenomerite; from *Singuliurus* by the presence of a tibiotarsal remnant. Type species, *Illiniurus beattyi* new species, by monotypy.

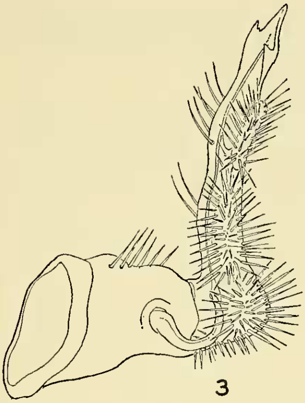
Illiniurus beattyi new species

Figures 1–4

Type Specimens: Male holotype and female paratype (Mus. Comp. Zool.), from Clear Springs, Union Co., Illinois; J. M. Nelson, collector, 28 October 1966.

Description of Male Holotype:

Structure: Body of head and 20 segments, 24.5 mm long, 3.9–4.0 mm wide. Head (Fig. 1) large, smooth, without setae on cranial portion, Epicranial suture distinct on frons, becoming obsolete between antennal sockets. Face smooth, vertical, setation as follows: interantennal 1–1, subantennal 1–1, frontal 1–1, genal 2–2, clypeal 7–7, labral 6–6. Antennal sockets rimmed, separated by slightly more than their diameter. Antennae short, stout, reaching posterior border of third segment when fully extended posteriad. First and seventh antennal segments globose, others clavate. Two dorsal macrosetae on antennal segment one, three dorsal, three ventral on segment two, first two segments otherwise



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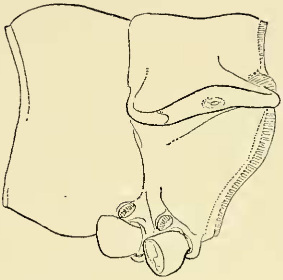

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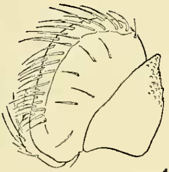

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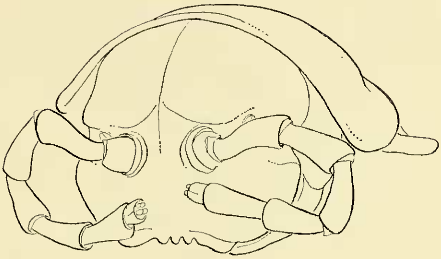

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glabrous, or nearly so. Distal segments progressively more setiferous. Sensory cones four, set loosely in socket.

Collum slightly larger and broader than second body segment, smooth, margined anteriorly, distinctly depressed transversely about one-fourth its length from anterior edge, anterior edge straight, posterior edge procurved, vaguely emarginate near the sides, gradually curving posteriad laterally. Sides flared and raised posteriorly, depressed and nearly vertical anteriorly. Lateral edges distinctly margined.

Body segments glabrous, faintly tuberculate, evenly convex dorsally. Metazonites greater in diameter than prozonites, stricture strongly impressed dorsally. Paranota about one-fourth body width, strongly depressed anteriorly on segments two to five, gradually becoming nearly horizontal; paranota overlapping on segments 16–19, otherwise well-separated. Scapulorae marginal anteriorly, becoming submarginal and blending into submarginal swellings laterally. Prolateral tooth set off by obtuse notch. Pore formula normal, pores opening laterally on edges of paranota, peritremata obsolete, surrounded by swellings.

Epiproct large, as long as segment 19 dorsally, broadly spatulate, somewhat margined dorsally, surface convex anteriorly, nearly flat posteriorly. Periprocts planoconvex, with distinct, but not thickened, lips. Dorsal setae only slightly closer to margin than ventral setae. Hypoproct flat, semicircular, paramedian setose tubercles small, indistinct.

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Prozonites minutely hispidulose ventrally, interzonal furrow nearly straight. Sterna becoming glabrous, subcoxal elevations pronounced. Coxal sockets rimmed, equidistant in both leg pairs except on segment 18, where posterior coxae are closer together.

Sides of prozonites becoming smooth, stricture distinct laterally. Sides of metazonites smooth, except for raised line extending from posterior coxal socket to posterior edge of paranota. Tuberculate ridge above coxal sockets on all segments. Stigmata immediately anterio-dorsal to coxal sockets, subequal in size, anterior stigma oval, posterior subcircular. Stigmatic margins raised, contiguous with coxal condyles (Fig. 2).

Coxae globose, subequal in length with prefemora, unspined. Prefemora unspined, but both coxae and prefemora bearing ventrodistal macrosetae. Femora clavate, twice length of prefemora, setose beneath. Postfemora globose. Tibiae and tarsi subcylindrical, tarsi twice as long as tibiae, tapering, flattened laterally, heavily setose beneath, slightly so above. Pretarsi long, one-third length of tarsi, sclerotic.

Sternite of segment six depressed, concave, anterior sternites otherwise unmodified. Socket of gonopodal segment large, oval, prozonite reduced to narrow strip. Lateral edges of socket forming distinctly raised lobes. Gonopods (Fig. 3) large, extending *in situ* to anterior leg pair of sixth segment. Coxae of gonopods large, globose, joined by lightly sclerotized membrane. Prefemur slightly longer than acropodite, setose, constricted midway in its length, without processes. Line of contact between prefemur and acropodite distinct only on ventral side. Acropodite more heavily sclerotic than prefemur, glabrous, curved transversely with concave side mesodorsad, ending in three processes. Longest, most lateral process probably represents tibiotarsal remnant; seminal groove ending on middle (solenomerite) division, which bears third process, a short pointed lamina, mesally.

Coloration: Coloration in life unknown, but probably agreeing closely with other genera of subfamily: olive black with red or orange paranota and red or orange spot in midline of each segment (based on Virginia specimens of *Euryurus leachii*). After preservation in alcohol, dorsum light brown, paranota and median spot white to clear testaceous, dark brown line running diagonally from light median spot to posterior origins of paranota. Epiproct unmarked, light brown. Collum light brown, dark brown submarginal spots on sides.

Description of Female Paratype:

26.5 mm long, 4.0 mm wide. Structure very close to that of male, but segments more arched dorsally, body of generally more robust appearance. Anterior surface of prozonal sternite of segment three rugose, cyphopods as in Fig. 4, valves flattened, oval, with single, median receptacle.

Distribution: Known only from the type locality, Clear Springs, Union Co., Illinois. The vial which contained the types also contained a single male of *Auturus evides* (Bollman). The type specimens have been deposited in the American Museum of Natural History, New York.

LITERATURE CITED

CAUSEY, N. B. 1955. New records and descriptions of polydesmoid millipeds (Order Polydesmida) from the eastern United States. Proc. Biol. Soc. Washington 68: 21–30.